



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,966	05/29/2001	Fang Wu	CISCP219	9757
22434	7590	08/09/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			WU, JINGGE	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2623	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,966

Applicant(s)

WU ET AL.

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-20, 22-29, 31-44 and 46 is/are rejected.
- 7) ☒ Claim(s) 6, 21, 30 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/11/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Applicant's amendment filed on March 18, 2005 has been entered and made of record.

Applicants' amendment has required new grounds of rejection. New grounds rejection are therefore presented in the Office Action.

Applicant's arguments with respect to claims 1, 3-20 have been fully considered but are moot in view of the new ground(s) of rejection. Applicant challenges the Examiner to provide evidences to show the features of DCT on audio, cut-off index, and a threshold filter are well known. The Examiner provides the evidence in the following Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 7-11, 13, 14, 16-17, 19-20, 22-25, 27-28, 31-34, 36-37, 39-40, 42-43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5907374 to Liu (a reference of record) in view of US 6412112 to Barrett et al.

As to claim 1, Liu discloses a method of reducing the bandwidth constraints, the method comprising:

identifying transform coefficients representing video content in a frame or a portion of frame of the video bitstream (col. 2 line 64-col. 4 line 19, especially col. 4 lines 1-19); and

filtering selected transform coefficients from the video bitstream to thereby reduce the bit rate of the video bitstream thereby reduce the bit rate of the video bitstream (col. 9 lines 34-40, col. 15 lines 3-15 and col. 11 lines 9-44, note that filtering can produce modified bitstream that provides the reduction of bit rate).

Liu does not explicitly mention the reduced bit rate meets the bandwidth constraint, and before the filtering the video stream does not meet the constraint but does meet the constraint after filtering.

Barrett, in an analogous environment, discloses the reduced bit rate meets the bandwidth constraint, and before the filtering the video stream does not meet the constraint but does meet the constraint after filtering (col. 8 lines 1-24, note that Barrett tailors the bandwidth to required one).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features of Barrett in the system of Liu in order to improve the efficiency of the image encoded and transmission (Barrett, col. 8).

As to claim 3, Liu further discloses a filter (col. 9 lines 34-40).

As to claim 7, Liu further discloses the filter can be altered on a per block basis and thus, the coefficients can be filtered differentially on a per block or a per macroblock basis (col. 9 lines 27-52, note that it is inherent because of DCT blocks).

As to claim 8, Liu discloses a method of filtering transform coefficients associated with an input bitstream, method comprising:

identifying transform coefficients associated with an input bitstream (col. 4 lines 1-19);

selecting transform coefficients for filtering to provide modified transform coefficients (col. 15 lines 3-15 and col. 11 lines 9-44); and

generating an output bitstream, wherein the output bitstream associated with modified transform coefficients uses less bandwidth than the input bitstream associated with the transform coefficients (fig. 3, col. 1 lines 12-20, col. 3 lines 18-67, col. 11 line 39-col. 12 line 65, note that the purpose of the modified bitstream coefficients are used to generate output bitstream with "conserved bandwidth").

Liu does not explicitly mention the coefficients associated with the bit-stream are selected differentially based on a per block or per macroblock basis.

Barrett, in an analogous environment, discloses selecting the coefficients to be filtered based on block basis (col. 8 lines 13-38, note that the DCT uses blocks and thus, selecting coefficients to be filtered according to the comparison of the blocks).

Analogous argument is addressed with regard to the claim 1.

As to claim 9, Liu further discloses using VL decoding on the input bitstream (fig. 3, 205).

As to claim 10, Liu further discloses identifying transform coefficients comprises acquiring the coefficients from a file (fig. 3, col. 9 lines 30-53, this is inherent because of each block of DCT coefficients).

As to claims 11 and 13, Liu further discloses DCT, DCT coefficients (fig. 3, col. 9 lines 27-53).

As to claim 14, Liu further discloses VLC (fig. 3, 305).

As to claim 16, Liu further discloses selecting a filter (col. 9 lines 34-39 and col. 15, lines 3-18).

As to claim 17, the discussions are addressed with regard to claim 7.

As to claim 22-25, 27-28, 31-34, 36-37, 39-40, 42-43 and 46 the claims are the corresponding apparatus and computer readable medium claims to claims 1, 3, 7, 8-11, 13-14 and 16-17. the discussions are addressed with regard to claims 1, 3, 7, 8-11, 13-14 and 16-17.

As to claims 4, 19-20, Liu discloses a DCT coefficient scanning and special filtering but does not explicitly mention zero/one filter, 8X8 filters, and one dimensional filters.

Examiner takes Official Notice that those features are notoriously well known in the art).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features in the system of Liu in order to expend the applicability of the system of Liu and improve the efficiency of the image encoded.

Claims 2, 5, 15, 18, 26, 29, 38, 41, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of US 6002801 to Strongin et al. (a reference of PTO 1449).

As to claims 2, 5, 15, 18, 26, 29, 38, 41 and 44, Liu do not teach the cut-off threshold and threshold filtering.

Strongin, in an analogous environment, discloses the threshold with filtering (col. 7 lines 54-60, note that any altering pixel coefficients is considered as filtering)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features of Strongin in the system of Liu in order to improve the efficiency of the image encoded and transmission (Strongin, col. 3).

Claims 12, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of US 6661923 to Koike et al .

As to claims 12 and 35, Liu does not explicitly mention DCT on audio data.

Koike, in an analogous environment, discloses the DCT operation on audio data (col. 6 lines 49-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features of Koike in the system of Liu in order to improve the efficiency of the multimedia data encoded and transmission.

Allowable Subject Matter

Claims 6, 21, 30, 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (571) 272-7429. He can normally be reached Monday through Thursday from 8:00 am to 4:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (571) 272-2600.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (571) 272-7414.

The Working Group Fax number is (571) 273-8300.

Jingge Wu

Primary Patent Examiner

